

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of routing a message in a communications network of interconnected nodes, the nodes being arranged to generate messages, each message having a destination information element containing the identity of a destination node for that message, a source information element containing the identity of the source node of that message, and a virtual source information element initially containing the identity of that source node, and each of the nodes having a respective routing table containing respective entries corresponding to source node/destination node pairs, each entry being in the form of a ranked pair of alternative next hop routes, the method comprising performing at a said node the steps of:

(a) comparing its own node identity with the destination node identity of a message to be routed; and, when it is not the destination node for that message,

(b) comparing its own node identity with the virtual source node identity of that message, and,

if there is a match at step (b),

(c) operating in source mode,

else,

(d) operating in transit mode;

wherein step (c) comprises the substeps of

(e) accessing its routing table in accordance with the virtual source node/destination node pair of that message to find the corresponding entry,

(f) forwarding the message to the higher ranking next hop route of that corresponding entry, and in the event that step (f) fails,

(g) forwarding the message to the lower ranking next hop route of that corresponding entry, and in the event that step (g) fails,

(h) replacing the content of the virtual source information element of the message with the node identity of the node from which that message was received, and

(i) sending that message back to that node from which it was received; and wherein step (d) comprises the substeps of

(j) forwarding the message to a preselected one of the ranked pair of alternative next hop routes of that corresponding entry, and in the event that step (j) fails,

(k) replacing the content of the virtual source information element of the message with its own node identity and performing step (c).

2. (Currently Amended) A method as ~~claimed~~ in claim 1, wherein for each said pair of alternative next hop routes, the two routes are node-disjoint routes.

3. (Previously Presented) A method as in claim 1, wherein substep (h) further comprises changing the state of a flag in a crankback information element of the message, and step (f) further comprises an initial substep (i) of checking whether the state of the crankback flag is indicative that the higher ranking route has already been attempted for that message.

4. (Original) A node for use in a communications network of interconnected nodes, the node having a respective routing table containing respective entries corresponding to source node/destination node pairs, each entry being in the form of a ranked pair of alternative next hop routes, and being arranged:

to generate messages, each message having a destination information element containing the identity of a destination node for that message, a source information element containing the identity of the source node of that message, and a virtual source information element initially containing the identity of that source node, and each of the nodes;

to compare its own node identity with the destination node identity of a message to be routed; and, when it is not the destination node for that message;

to compare its own node identity with the virtual source node identity of that message;

to operate in source mode in the event of a match between its own node identity and the virtual source node identity by

accessing its routing table in accordance with the virtual source node/destination node pair of that message to find the corresponding entry,

forwarding the message to the higher ranking next hop route of that corresponding entry, and in the event that that higher ranking next hop route is not available,

forwarding the message to the higher ranking next hop route of that corresponding entry, and in the event that that higher ranking next hop route is not available,

replacing the content of the virtual source information element of the message with the node identity of the node from which that message was received, and

sending that message back to that node from which it was received;

to operate in transit mode in the event of a mismatch between its own node identity and the virtual source node identity by

accessing its routing table in accordance with the virtual source node/destination node pair of that message to find the corresponding entry,

forwarding the message to a preselected one of the ranked pair of alternative next hop routes of that corresponding entry, and in the event that that preselected one of the ranked pair of alternative next hop routes is unavailable,

replacing the content of the virtual source information element of the message with its own node identity and operating in source mode for that message.

5. (Currently Amended) A node as claimed in claim 4, and further arranged to respond to no route being available, by changing the state of a flag in a crankback information

element of the message, and to respond to receipt of a message containing a crankback flag in a changed state, by ignoring the alternative route that had previously been used for that message.

6. (Currently Amended) A communications network comprising a plurality of interconnected nodes, each node being as described ~~claimed~~ in claim 4.

Claims 7-8 cancelled.